CHAPTER 16: WHAT DID WE LEARN?

The Phase I report is an assessment of existing conditions. It provides information about the ability of the state's aviation system to meet current demand and provide adequate access and levels of service. The Phase II report addresses the same issues up to the year 2030 – providing information about how well the existing system is expected to meet future needs. This section summarizes key findings from the Phase II analysis to help the Governor's Council answer those crucial questions. Information is provided for the state as a whole, as well as for each of the state's four Special Emphasis Regions.

Statewide Key Findings

Significant capacity constraints anticipated by 2030.

Airfield capacity constraints are expected at ten airports by 2030

The Phase I report identified six airports that appeared to be nearing capacity in 2005: Sea-Tac, Boeing Field, Kenmore Air Harbor, Inc., Kenmore Air Seaplane Base, Auburn Municipal, Harvey Field, and Ephrata Municipal. The Phase II analysis found ten airports expected to experience capacity constraints in 2030.

Sea-Tac expected to reach capacity by 2024.

Sea-Tac International Airport is expected to reach capacity by 2024. As the State's primary commercial airport, attracting nearly 90 percent of total Washington air passengers, Sea-Tac is relied on by passengers from across the state. Passengers use Sea-Tac either to originate air trips or as a major connecting point that provides access to the national and international air transportation networks. Therefore, it remains essential to the state's commercial aviation system that future demand that might not be accommodated at Sea-Tac has access to the air transportation system through other means.

Six of 20 commercial service airports will need to address terminal capacity before 2030.

The Phase I report, which addressed existing conditions, found that Sea-Tac and Tri-Cities had exceeded 60 percent utilization of existing passenger terminal capacity in 2005. The Phase II analysis found that in 2030, the list of airports exceeding that threshold increases to six:

Anacortes, Kenmore Air Harbor, Inc., Kenmore Air Seaplane Base, Orcas Island, Sea-Tac and Tri-Cities. Of those, four will have capacity utilization levels sufficient to warrant an expansion of terminal facilities.

Approximately one-quarter of Washington's public-use airports are expected to have aircraft storage capacity shortfalls by 2030.

The Phase I analysis found that many areas of Washington State are currently approaching capacity for aircraft storage – utilization levels reached 85 percent statewide in 2005. As a whole, the state's airport system is expected to have adequate long-term storage capacity, with a utilization rate of 36 percent by 2030. This is complicated by much higher utilization levels in certain areas of the state, particularly in the Spokane and Southwest Washington Special Emphasis Regions, where aircraft storage capacity is expected to be nearly 100 percent utilized by 2030. This finding is also complicated by competition for airport property by other aviation uses – while the analysis assumed that most developable land would be available for hangar development, it is likely that the property may be used to serve a variety of other uses.

Air cargo capacity influenced by geographic location and the availability of apron space and developable land.

The Phase I report found that ample cargo capacity exists statewide to meet current demand. The exceptions were Boeing Field and Sea-Tac, where cargo processing was estimated to be at or above 60 percent utilization of existing facilities. More detailed analysis in Phase II revealed the importance of site-specific factors in understanding an airport's capacity for serving air cargo operations. For example, the availability of off-airport properties for cargo processing facilities is an important determinant of capacity at Boeing Field and Sea-Tac, where there are limitations on developable land on the airport. Conversely, the research showed that cargo processing facilities were not an important factor at small airports. Feeder services operating at those facilities do not require building space for cargo handling.

There is a significant imbalance in demand and capacity of Washington State's air transportation system.

Demand for aviation facilities and services tracks with population and economic growth. For this reason, concentration of demand is often found in areas with concentrations of population. Forecasting conducted as part of the Phase II analysis supports this view.

In Washington State, many types of aviation activities are concentrated in Puget Sound. The region currently accommodates 87 percent of Washington State's passenger traffic, 80 percent of the state's air cargo operations, and 45 percent of the state's general aviation activity. This concentration of activity is expected to continue through 2030. However, the region does not contain a proportionate percentage of the state's capacity available to serve this demand.

Aircraft storage demand is concentrated at a small number of airports across the state.

As a whole, the Washington State airport system is expected to have adequate long-term aircraft storage capacity. The system is expected to be 29 percent utilized by 2015 and 36 percent utilized by 2030. However, aircraft storage capacity at certain individual airports may be insufficient to meet projected demand, and additional storage will be required, either at the airport itself or at surrounding alternate airports.

A substantial amount of system capacity is provided by privately-owned airports, which are at higher risk for closure.

Public agencies have a limited ability to influence the preservation of privately-owned transportation facilities, even though they substantially contribute to the state's air transportation system capacity. Privately-owned airports generally do not perform as well as publicly-owned airports in all of the various airport classes. This is likely because privately-owned airports are ineligible for state grant funding, and the same level of effort is not undertaken to protect their long-term viability, compared to publicly-owned airports. Generally these airports have a higher risk factor of converting to other uses than similarly sized airports that are publicly owned. Also, encroachment of incompatible development may inflate property values leading to conversion to other uses.

There are enough runways in the state system to accommodate future demand. However, available capacity is located in areas of the state with low levels of demand.

The primary capacity issue is the distribution or concentration of demand in the most populated regions of the state. The smaller, outlying airports in Washington provide over 60 percent of the state's operations capacity, but only generate about 25 percent of the demand. Conversely, while the largest airports in the state provide one-third of operations capacity, they attract 75 percent of the demand.

The airports expected to experience capacity constraints are the ones most likely to have statewide impact.

Sea-Tac, Boeing Field and Spokane International – three of the state's busiest airports – are expected to experience capacity constraints by 2030. In fact, Sea-Tac is projected to reach capacity by 2024. Due to the significance of these facilities for the state air transportation system, and their relationship to other airports, the impact of congestions at these airports will in turn affect operations at many other facilities throughout Washington State.

Trends contributing to the loss of service at smaller commercial service airports in recent years expected to continue through 2030.

Many of the smaller airports in Washington State have lost a substantial amount of air service in the last 10-15 years. With the exception of a Sea-Tac, Boeing Field, Bellingham and a number of San Juan Island airports, all other commercial service airports in Washington State have lost scheduled capacity since 1997. Six airports have lost scheduled service entirely.

Loss of service at small airports in rural communities across the state is driven by two trends expected to continue through 2030:

Smaller airports are generally dependent on a single carrier

Scheduled service at most of Washington's smaller airports is increasingly characterized by the dominance of a single air carrier, and in many cases, a single monopoly scheduled carrier. At 13 of the 18 Washington airports with scheduled air service, a single, monopoly carrier provides service. Airports that are dependent on a single air carrier for scheduled air service could be at greater risk for service loss than airports served by multiple carriers.

Larger airports will continue to attract passenger traffic from smaller airports.

Sea-Tac, Portland and Spokane are the primary airports diverting traffic from local airports in Washington State. These airports remain attractive to travelers because of their nonstop service to both domestic and foreign destinations, and their high level of service frequency. With Southwest Airlines and other low-cost carriers serving all three airports, the availability of low fares is an additional factor compelling passengers to drive long distances to use these airports. Therefore, the state's largest airports will continue to capture an overwhelmingly large share of traffic and commercial activity.

The U.S. DOT's Essential Air Service (EAS) Program could act to prevent a total loss of scheduled air service at small community airports facing the greatest risks. However, even with EAS protection, communities are only guaranteed a minimum of two roundtrips a day to a designated hub airport. Given the low levels of service provided and subsidized under EAS,, participating communities have often experienced continuing declines in passenger traffic.

Aviation capacity issues are inter-related: congestion in one area influences available capacity in another. Inaction may limit options.

Although the capacity of airports is measured through separate analyses of specific facilities (e.g., airside, passenger terminal, air cargo, aircraft storage), the fact is that all of these elements are interrelated at an airport. Increasing airfield demand is directly related to increasing demand on terminal, cargo, aircraft storage and other facilities. Consequently, improving the capacity of a single element such as the airfield can lead to increased demand for other, landside based facilities. Additionally, as demand and capacity grow at individual airports, the strain on the system's airspace capacity also increases. Therefore, solutions proposed for addressing capacity deficiencies at an airport must give consideration to the full range of consequences that such an action may have on the capacity of the remaining facilities at the airport.

Similarly when regional capacity issues are identified, it is important to remember that an airport that has excess capacity to accommodate increased operations will be attractive to all classes of system users. For instance, when considering where potential increases in passenger traffic can be accommodated within the state, it must be remembered that the same airports that have the physical components, locational attributes, and socioeconomic characteristics to attract commercial passenger traffic may also be in demand for other types of aviation activity such as general aviation. Therefore, when considering the potential of an airport to - for example - take on a commercial service role, it should be recognized that the same airport may also represent a desirable location for excess cargo and corporate general aviation activity that cannot be accommodated at other airports in the region. In some instances, it is likely that the capacity of the airport in question will not be sufficient to accommodate all classes of potential new demand.

Passenger rail improvements will not provide meaningful capacity relief to the air transportation system.

Existing levels of airline passenger origin-destination traffic in the Seattle-Portland and Seattle-Vancouver markets represent an extremely small proportion of total Sea-Tac passenger traffic. Even if all of this air traffic

was diverted to the improved inter-city rail service, this would not produce a material reduction in overall passenger demand at Sea-Tac.

Improved rail speeds and connectivity to the airports at Portland, Oregon and Vancouver, B.C. will still not be competitive with automobile drive times to these airports for passengers from the greater Seattle region. As a result, it is not expected that these rail improvements will cause passengers who currently choose to begin their air trips at Sea-Tac to instead choose to originate at one of these alternate airports.

Analysis measures aviation system performance on a variety of objectives for access and level of service.

- All but one percent of the state's residents live within 90 minutes of a Regional Service or comparable Commercial Service Airport.
- Airports with airfield pavements currently perform well on pavement condition objectives.
- Land use protections are inadequate for airports in all classifications. Compliance with nearly all the land use objectives is noticeably lower than in other measures. Only 35 percent of airports are protected by comprehensive plan policies, and only 22 percent are protected by zoning. This suggests that significant improvement is needed in land use compatibility planning for airports throughout the state.
- The availability of navigation equipment is a weakness in the performance of the state air transportation system. In fact, the instrument approach objective has the lowest compliance for all applicable classifications. Compliance is as follows: Commercial Service, 63 percent; Regional Service, 37 percent; and Community Service, 22 percent. This objective is an important indicator of all-weather, 24-hour airport access, which opens the facility to many types of aircraft and supports economic development, emergency medical transportation, and business aviation.

Special Emphasis Regions Key Findings

Puget Sound

Nine of the twelve airports expected to experience airfield operational capacity constraints by 2030 are located in the Puget Sound region. The nine airports projected to meet or exceed FAA capacity planning thresholds by 2030 are:

- Arlington Municipal
- Auburn Municipal
- Boeing Field/King County International
- Crest Airpark
- Harvey Field
- Kenmore Air Harbor, Inc.
- Kenmore Air Harbor Seaplane Base
- Sea-Tac International
- Snohomish County/Paine Field

Three commercial service airports in the Puget Sound region will need to address passenger terminal capacity before 2030. The three airports are:

- Kenmore Air Harbor
- Kenmore – Lake Union
- Sea-Tac International

The large number of airports in the Puget Sound region anticipated to experience capacity constraints limits the options for managing demand. Methods such as traffic redistribution or demand management are more difficult when all or many system airports are nearing capacity. This would suggest that the possibility of building a new airport in the region to accommodate excess capacity should be examined.

- While the Puget Sound Region as a whole is not expected to exceed aircraft storage capacity by the year 2030, there are ten airports (36 percent of the total airports in the region) in the region that are expected to be at or exceeding capacity by the year 2030.

- The majority of Washington's airspace overlaps occur within the Puget Sound Special Emphasis Region, where population and aircraft activity is the greatest. Significant overlaps involve the following airports: Seattle-Tac International (SEA), Boeing Field/King County International (BFI), Auburn Municipal, HarborView Medical Center and McCord Air Force Base.

Southwest Washington

- No commercial airports are located in this region. Commercial passenger service is currently chiefly provided by Portland International Airport (PDX), located across the Oregon State

border. A 2006 PDX passenger survey[116] estimated the number of passengers originating from the Southwest Washington region at approximately 1.2 million[117]. Given the continued demographic and economic growth expected in Southwest Washington, continued growth in commercial passenger demand is also to be expected. Discussion with PDX officials indicate that the airport is not facing any capacity constraints and should be able to effectively serve the demands of the region through the forecast period.

- Aircraft storage capacity in the region is expected to be nearly 100 percent utilized by 2030. While the Southwest Washington Region as a whole is not expected to exceed aircraft storage capacity by the year 2030, five of the eight airports in the region are expected to be at or exceeding capacity by 2030.

- Significant potential for loss of capacity exists in the Southwest Region. Evergreen Field (59S), a privately-owned airport, closed in July 2006. Pearson Field has space limitations due to the national park land adjacent to airport property. In addition, the airport has a congressional agreement, which indicates that the airport will close in 2022. Finally, remaining private airports in this region are under extreme growth pressure and are at risk of closure. In total, this issue represents a potential total loss of 48 percent of the region's capacity.

Spokane

- Commercial passenger service is provided by Spokane (GEG), the second most important commercial service airport in the state. Spokane is expected to remain a strong market and to continue to attract "leakage" traffic from other airports in central and eastern Washington. The forecasts and capacity analyses do not suggest any immediate issues for the region.

- Aircraft storage capacity in the region is expected to be nearly 100 percent utilized by 2030. Three of the five airports in the Spokane Region are expected to be at or exceeding capacity by 2030.

Tri-Cities

- Commercial passenger service is provided by Tri-Cities/Pasco (PSC), the third busiest passenger airport in the state. Tri-

[116] Source: Portland International Airport Profile of Washington State Non-Air Arrivals, 2006
[117] This figure understates actual passenger demand in the region, as it does not account for incoming visitors with ground destinations in the Southwest Washington region.

Cities/Pasco is expected to remain a strong and growing market, with PSC attracting significant "leakage" traffic from other airports in southeast Washington.

- Tri-Cities will need to address terminal capacity before 2030.

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